

Fatal injuries in farming, forestry, horticulture and associated industries 2010/11

Agricultural and Food Sector, Operational Strategy Division

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Introduction

1 Part One of this report summarises the fatalities, investigated by inspectors from the Health and Safety Executive (HSE), reported in the agricultural sector (comprising farming, horticulture, forestry, fish farming and other associated land-based industries) in Britain between 1 April 2010 and 31 March 2011. **The data in Part One of this report is provisional.**

2 Part Two summarises fatal injuries notified to HSE within the agricultural sector in the ten-year period 2000/01–2009/10. It identifies trends and highlights key issues from the investigation of fatal injuries involving employees, the self-employed and members of the public during this period.

The presentation of statistics in this report

3 HSE's official statistics are published by HSE's Statistics Branch and are subject to detailed review and scrutiny in line with National Statistics protocols and quality standards. Fatal incident statistics are published for all industrial sectors annually (usually in July), at which time the provisional figures for the 12 months to the previous March and final figures for the preceding year are made public.

4 The figures published in Part One are provisional because detailed checks need to be made to determine whether the fatality is legally reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR), and to ensure that it is properly classified against the appropriate industry. Such checks are important. Wider lessons cannot be fully learned from individual tragedies and HSE's interventions and messages cannot be properly targeted unless they are based on reliable information about the sector in which the incidents occur and the frequency with which they happen (incidence rates). HSE's Statistics Branch and staff in HSE's industry-specific sectors use data of this kind to work out patterns of incident causation, trends and incidence rates. This helps HSE prioritise and devise effective interventions with particular industry sectors and types of business. The number of fatalities cannot be finalised until 16 months after the year end because people injured at work who die from their injury within 12 months are, by international statistical convention, counted as work fatalities in the year of the injury.

5 Although the number of fatal injuries in construction was higher, the incidence rate (expressed per 100,000 workers) in agriculture was the highest among the traditional industry sectors in Britain in 2010/11. It continues to be a cause of concern for HSE, its Agriculture Industry Advisory Committee (AIAC) and the industry itself. The AIAC is kept informed about indicative statistics and incident trends so that, as the year unfolds, any emerging patterns of causation or seasonal trends can be shared with the industry to try to prevent further incidents happening. The situation is ever-changing and there is a balance between the speed of providing relevant information and certainty.

6 For these reasons, the collective headline statistics recorded in this report are based only on investigations carried out by inspectors from HSE and so will differ from HSE's overall figures published over the previous ten years.

7 Since April 2010, HSE has used the Standard Industrial Classification scheme 2007 (SIC2007) to define industrial sectors, rather than the SIC2003 scheme used in previous years. Thus, RIDDOR reports prior to April 2010 will have been coded using SIC2003; those after April 2010 will have been coded using SIC2007. Under the new industry coding, landscaping activities have been moved from agriculture

to the services sector. The Office for National Statistics estimates that this change will affect 13% of employees who used to be classified under agriculture.

8 The reclassification to SIC2007 has affected many of the tables for the agriculture industry on HSE's statistical website at www.hse.gov.uk/statistics/index.htm. The impact on the statistics is different for fatal and non-fatal injuries. On the one hand, the risk to agricultural workers is higher than that to landscaping workers. On the other, we believe the level of reporting of non-fatal injuries is higher in landscaping services than in agriculture. This results in an apparent increase in the agricultural fatal injury rate and a corresponding apparent decrease in the non-fatal injury rate.

9 However, because HSE's agriculture strategy has been developed to address the hazards and risks in the industry, defined as including both:

- traditional farming activities such as arable, dairy, livestock and mixed farming, the growing of fruit and vegetables, arboriculture, forestry, production horticulture, agricultural and animal husbandry services; and
- the wider land-based industries, including amenity management and landscaping, animal care, aquaculture, environmental conservation etc;

landscaping has been included in this report.

10 Following detailed analysis, HSE's agriculture sector has concluded that 42 deaths were reported in the industry in 2010/11. However, the breakdown by employment status differs from previously published statistics, with 11 employees, 23 self-employed and eight members of the public reported as being killed during the year.

11 As outlined in paragraph 4, the figures for 2010/11 remain provisional and may be further revised before they are finalised in June 2012.

12 We hope that this approach will not lead to any confusion or concerns about discrepancies between HSE reports. HSE seeks to be transparent about its methodology, to provide up-to-date information and to maximise the immediate use to which this statistical information can be put – with the overall aim of learning lessons. Hopefully, the information in this report can be used to prevent or reduce future tragedies.

Part One: Fatal injuries in farming, forestry and horticulture 1 April 2010–31 March 2011

Introduction

13 The total number of reported fatal injuries resulting from work activities in the agriculture sector was 42, including eight members of the public.

14 The total excludes reported deaths from reportable diseases.

Table 1 Six-year comparison

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11 (p)
Employed	11	14	22	9	13	11
Self-employed	23	22	24	17	25	23
Non-employed	8	7	2	4	5	8
Total adults	39	39	48	30	40	39
Total children (<16)	3	4	0	0	3	3
Total (SIC92, A&B)	42	43	48	30	43	42

Key points

15 Forty-two deaths were reported in 2010/11; one less than in the previous year but comparable with the number of deaths reported in 2005/06.

16 The total of 34 deaths among all workers (ie employees and the self-employed) is an increase of four from the previous year.

17 Eleven employees were killed; two fewer than in the previous year. The average number of employee deaths over the previous five years was 14; the range being between 9 and 22.

18 Twenty-three self-employed people died during the year; two fewer than in the previous year. The average over the previous five years was 22; ranging between 17 and 25.

19 Of the 34 deaths involving workers, 29 were aged 40 years or over, including 20 self-employed. Twenty-one were aged 55 years or over (14 were self-employed). Eight of the self-employed were above the state pension age of 65. Among employees, the age ranged from 26 to 70. The youngest worker killed was 26 and the oldest worker, a self-employed farmer, was 87.

20 The total number of workers killed over the previous five years was 180. Of these, 69 (38%) were employees and 111 (62%) were self-employed.

21 In addition, eight members of the public were killed in 2010/11; three more than in 2009/10. The average number of deaths over the previous five years was five. Of these, three were children under the age of 16. Over the past ten years, 18 children have been killed as a result of an agricultural activity.

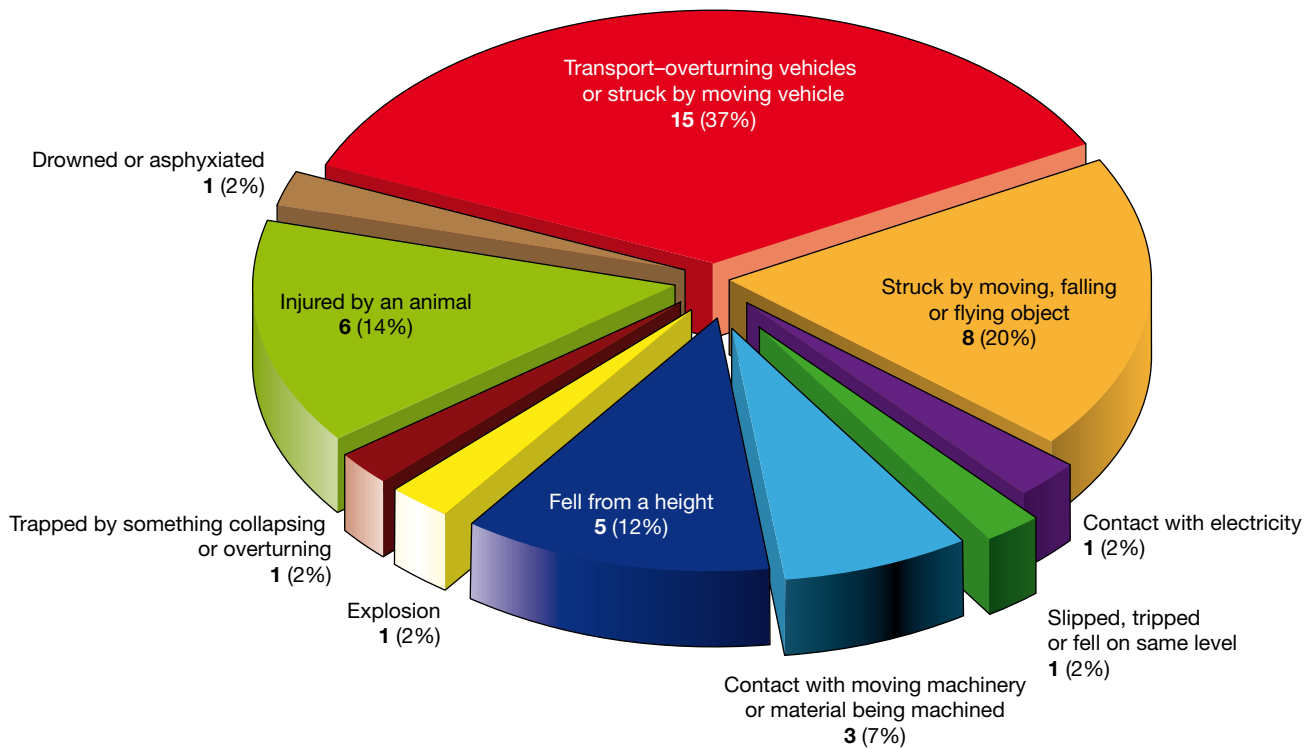


Figure 1 Fatal injuries by cause 2010/11

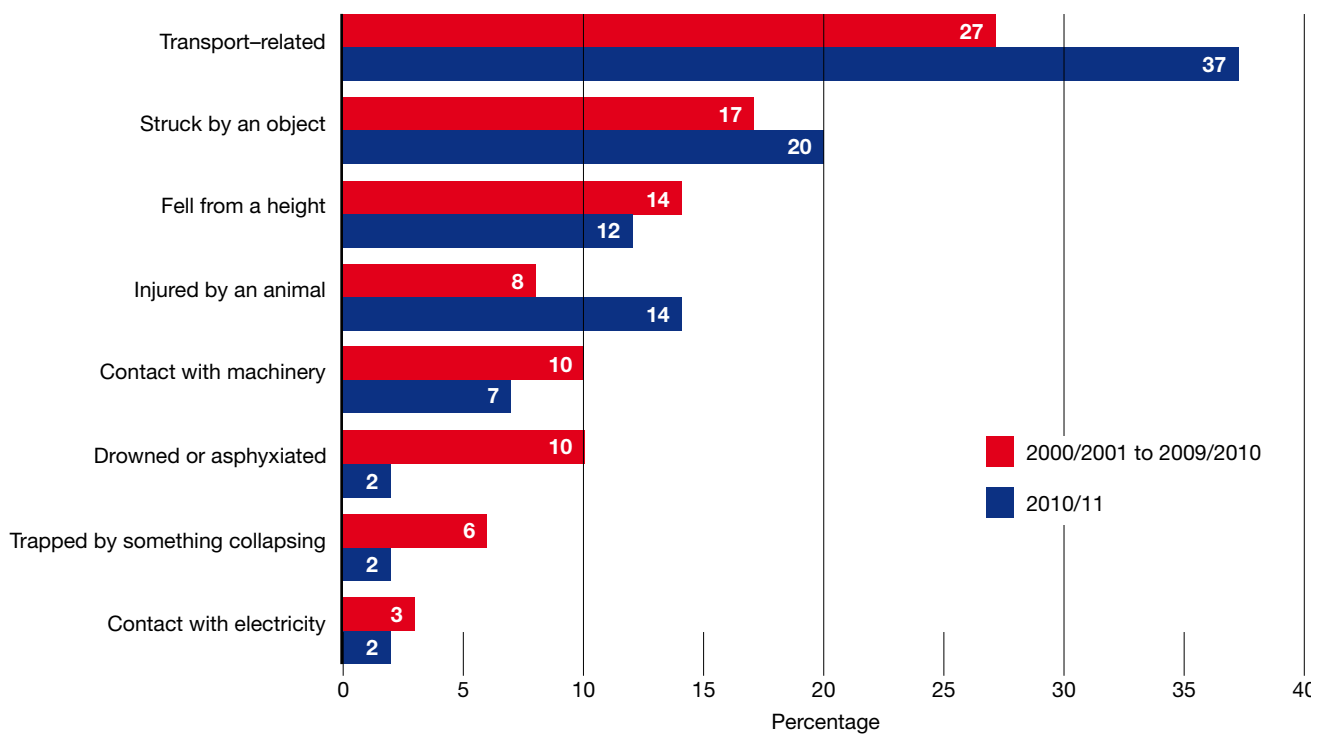


Figure 2 Fatal injuries by cause – percentage in 2010/11 against previous ten years (2000/01 to 2009/10)

Cause of fatality

22 As in previous years, transport was involved in more deaths in 2010/11 than any other category. Fifteen people (37%) died after being either struck by moving vehicles; run over by tractors or farm equipment; caught between moving vehicles, equipment and structures; or trapped by an overturned vehicle.

23 Of the transport-related deaths:

- seven involved tractors, including one ten-year-old child who was run over by a tractor and slurry spreader; an 81-year-old farmer who was trapped between a tractor fore end loader and a gate; and an 87-year-old farmer who was run over by a tractor wheel and a trailed hay making machine;
- five involved all-terrain 4x4 vehicles (ATV). Four of the victims died as a result of overturns: three were found crushed underneath the bike; one was a 60-year-old farm manager and the other two were children. One 11-year-old child and another nine-year-old child were found trapped beneath an overturned bike. One 48-year-old self-employed farmer was not wearing head protection and the remaining ATV fatality was a 58-year-old self-employed farmer who fell off as she crossed a stream;
- two involved fork lift trucks: one worker was run over by a FLT and the other was found trapped beneath an overturned truck;
- one involved a self-employed timber merchant who had been run over by a forestry forwarder.

24 The second highest category, (eight deaths 20%) was as a result of being struck by a falling, flying or moving object. Three incidents involved bales of hay: one farmer was struck by a bale of hay; another was found trapped underneath a large bale; and the third was a member of the public who was struck by a rolling bale as he drove along a public highway. Two workers were struck by falling trees. One farmer was crushed beneath a roller shutter door when it fell on top of him, and another was trapped by a concrete block that fell as it was being lifted. The remaining incident involved a 72-year-old farmer struck by a bale grab attached to the front of his tractor.

25 Farm animals were involved in six deaths: three people were trampled to death by cattle, and a further three were killed by bulls. Two of the victims were members of the public, three were self-employed farmers and one was a self-employed welder helping a farmer to move a bull into its pen.

26 Falls from height resulted in five deaths: three victims fell through fragile roofs during cleaning, maintenance or repair work and two fell from trees.

27 Machinery was involved in three deaths: a self-employed tree surgeon came into contact with a chainsaw; a farmer was found trapped beneath a trailer tailgate; and a retired 83-year-old farmer was entangled on an unguarded rotating power take-off shaft (PTO).

28 The remaining five victims were killed as a result of something collapsing or overturning; drowning in water; contacting an overhead power line; slipping, tripping or falling on a concrete floor; or as result of a pressure vessel inspection cover being propelled across a room.

Table 2 Type of fatal injuries 2010/11

Transport (overturning vehicles or struck by moving vehicle)

Tractor **5**
 Tractor and slurry spreader **1(1)***
 Tractor fore end loader **1**
 All-terrain vehicle (ATV) **5(2)**
 Fork lift truck (FLT) **2**
 Forestry forwarder **1**

Injured by an animal

Bull **3**
 Cattle **3**

Contact with machinery

Chainsaw **1**
 Bailer tailgate **1**
 Power take-off shaft **1**

Contact with electricity

Overhead power line (OHPL) **1**

Slipped, tripped or fell on same level

Uneven floor **1**

Struck by moving, falling or flying object

Bale of hay **3**
 Tree **2**
 Shutter door **1**
 Bale grab **1**
 Concrete block **1**

Fell from a height

Fragile roof **3**
 Tree **2**

Trapped by something collapsing or overturning

Trailer **1**

Explosion

Pressure vessel **1**

Drowned or asphyxiated

Water **1**

Total 42(3)

** The number of child deaths are shown in brackets*

Employment status and location

Table 3 Fatalities by country 2010/11

	Employed	Self-employed	Non-employed	Total
England	8	14	6	28
Scotland	3	6	2	11
Wales	0	3	0	3
Total	11	23	8	42

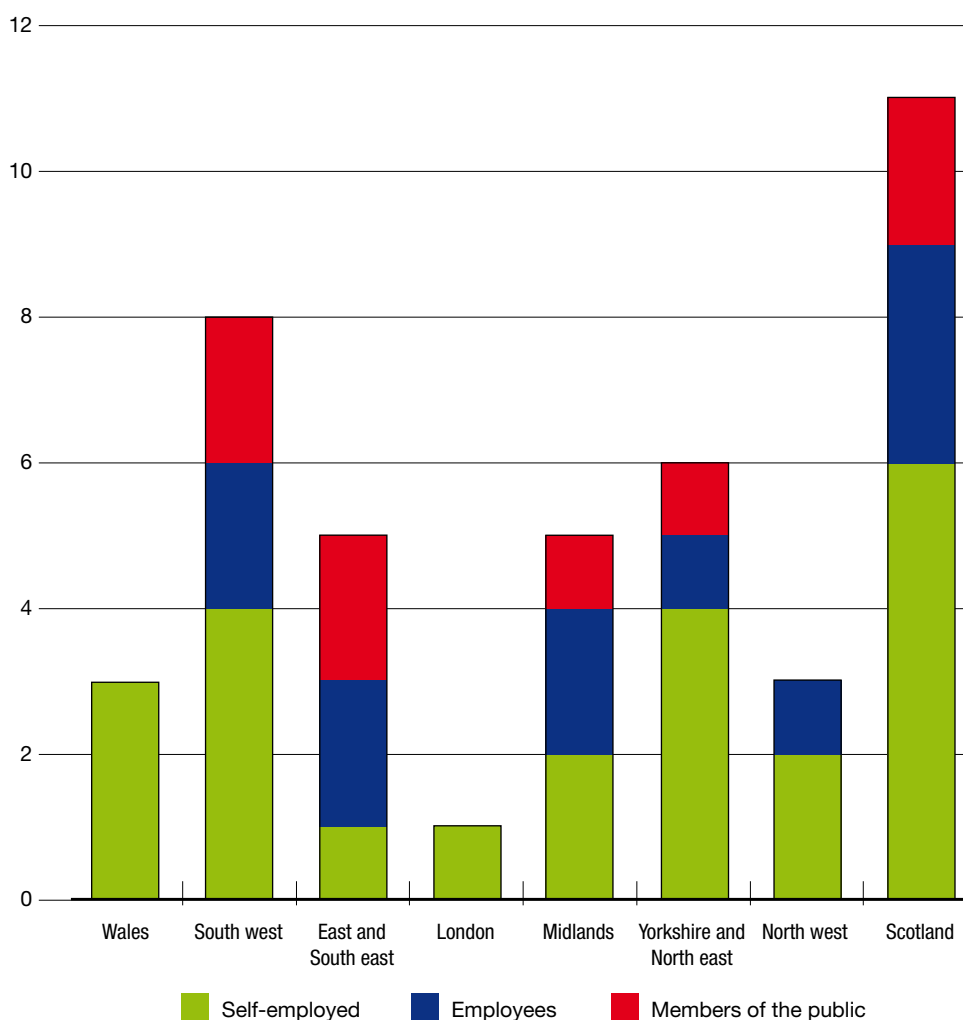


Figure 3 Fatal injuries by status and location 2010/11

Table 4 Number of fatal injuries by HSE Division 2010/11

HSE Division	Counties and Unitary Authorities (UAs)	Number
East and South East	The counties of Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Essex, Hampshire, Hertfordshire, Isle of Wight, Norfolk, Suffolk, Oxfordshire, Kent, East and West Sussex and Surrey	5
London	All London boroughs	1
Wales and South West		
Wales	All Wales UAs	3
South West	Cornwall, Devon, Somerset, North Somerset, Bath and North East Somerset, Gloucestershire, South Gloucestershire, Bristol, Dorset, Swindon and Wiltshire	8(1)*
Midlands	Counties of West Midlands, Leicestershire, Northamptonshire, Warwickshire, Derbyshire, Lincolnshire, Nottinghamshire, Hereford and Worcester	5
Yorkshire and North East	All the counties of Cleveland, Durham, North Yorkshire, Northumberland, West Yorkshire, Tyne & Wear, Humberside and South Yorkshire	
Yorkshire	North Yorkshire, West Yorkshire, South Yorkshire and Yorkshire (E Riding)	4(1)
North East	Durham, Northumberland and Tyne & Wear	2
North West	All the counties of Cheshire, Cumbria, Greater Manchester, Lancashire and Merseyside	3
Scotland	All Scottish UAs and island councils	11(1)
Total		42(3)

* The number of child deaths are shown in brackets.

Summary of fatalities by HSE Division 1 April 2010–31 March 2011

Wales and South West Division

Wales

29 A 46-year-old self-employed farmer was found trapped beneath a large bale of hay. She was working alone in a barn. There were no witnesses but she appeared to have been struck by a falling bale. She was asphyxiated and found by her husband with her head in a nearby sheep run.

30 A 58-year-old self-employed contractor fell through a roof. He and his son were cleaning the roof of a cow shed when he fell through the fragile roof sheets onto the concrete floor below and sustained multiple head injuries.

31 A 58-year-old self-employed timber merchant was run over by a forestry forwarder. There were no witnesses but it is believed either he dismounted the moving vehicle before being run over by it, or the vehicle rolled down the hill and ran him over. He was discovered on a forestry pathway. The vehicle was on its roof on an embankment below the forest track. He died from multiple crush injuries.

South West

32 A 41-year-old self-employed farmer was struck by a bale of hay. He was undertaking farming duties when a bale of hay fell from the jaws of a loader and struck him. There were no witnesses but it is believed he was cutting the plastic from under one of the bales when it fell and crushed him.

33 A 67-year-old employee died when a pressure vessel exploded. He was working on the electrics of a nearby pressure vessel when another hot water pressure expansion vessel exploded as its inspection cover was being removed. It is believed that the release of pressure fractured the bolts of the cover, propelling it across the room, hitting and injuring several workers. He died from head injuries.

34 A 45-year-old self-employed tree surgeon died when a tree branch to which his climbing rope had been attached fell to the ground. He had been working with a colleague reducing trees in a garden at the rear of a house. As he was lowering a section of timber, the branch securing his climbing rope tore away from the trunk causing the branch, the lowering rope, the climbing rope and the tree surgeon to fall to the ground. He died from injuries sustained in the fall.

35 A 48-year-old self-employed farmer was killed when his quad bike overturned. He had been moving between fields along a farm track (with his farm worker riding as his passenger) when the bike overturned. Neither rider was wearing a helmet and the farmer died from head injuries.

36 An 87-year-old self-employed farmer was run over by a tractor. He had been hay making in a field and had left the tractor moving. It would appear that the tractor wheel ran him over and then he was struck by the tines of the trailed hay making machine. He died from crush injuries to the chest.

37 A 62-year-old member of the public was killed by a rolling hay bale. He was driving along a road when a bale of hay from an adjacent field rolled down the hill and across the road as he was driving past, striking his vehicle.

38 A 65-year-old employee fell through a skylight to the floor below. He was carrying out repairs to a slated roof above a milking parlour when he fell through the fragile roof to the concrete floor below.

39 An 11-year-old child was crushed beneath a quad bike. He was riding the bike in a field and had intended to check the electric fence and move it, when he somehow overturned the bike. There were no witnesses and he was found under the bike.

East and South East Division

40 A 58-year-old self-employed farmer was trampled to death by a bull. He had entered the field to see why his bull appeared unsettled and was seen handling the animal. The bull suddenly attacked and trampled on him.

41 A 59-year-old forestry worker was crushed by a falling tree. He was felling a tree for a farmer when a hung-up tree that he had previously part-felled, fell and crushed him.

42 A 72-year-old member of the public collapsed and hit her head on a concrete floor. She was leaving a farm shop and fell as she passed through the doorway. Although she managed to drive home, she collapsed again at home and died from head injuries.

43 A 47-year-old member of the public was trampled to death by cattle. He was helping out at a farm and had intended to bring in the cows for milking but did not return. There were no witnesses but he was found in the field with injuries consistent with his having been trampled.

44 A 26-year-old employee was electrocuted by an overhead power line. He was spreading soil along a path and filling potholes using a tractor and tipper trailer below an overhead power line. He raised the trailer, which came into contact with the overhead power line, and decided to get out of the tractor cab. In doing so, he inadvertently made contact with the tractor body and earth and was electrocuted and burnt.

London

45 A 27-year-old self-employed tree surgeon was killed by his chainsaw. He was reducing a tree when he came into contact with his chainsaw. There were no witnesses but the groundsmen noticed blood coming from the surgeon's neck and, with the help of another climber, rescued him from the tree. He was unconscious and died from severe neck injuries.

Midlands Division

East Midlands

46 A 48-year-old employee fell from a tree. He was working on the tree as part of a team of tree surgeons and had been removing tree branches. It appears that the branch he was using as his rope anchor point gave way causing him to fall to the ground.

47 A 74-year-old self-employed farmer died after been charged by a bullock. She was assisting another farmer in loading the animal onto a trailer when it turned back out of the trailer and knocked her to the ground. She fell backwards onto the concrete floor sustaining severe head injuries.

North Midlands

48 A 58-year-old farm manager was run over by a fork lift truck. He was crossing the yard when he was struck by a fork lift truck loaded with potato boxes, sustaining multiple crush injuries.

49 A 63-year-old member of the public was attacked by a bull. He was walking with his wife along a public footpath across farmland when the bull and herd of maiden heifers attacked them. His wife managed to escape and raise the alarm but he was later found dead in the field.

50 A 70-year-old self-employed retired farmer was run over by a reversing tractor. He was working in the farmyard when he collided with the yard tractor driven by his son, sustaining chest injuries.

Yorkshire and North East Division

Yorkshire

51 A ten-year-old child was run over by a tractor and slurry spreader. It seems the boy's father was driving the tractor and did not see him as he drove out of the farmyard and into a field. He was crushed under the wheel of the slurry tanker as it knocked him off balance, sustaining multiple injuries to his head and chest.

52 A 59-year-old employee was trapped between a trailer and a loader bucket. He was filling bags of cattle feed from the back of a raised trailer when the trailer became detached from the tractor, crushing him against the loader bucket.

53 A 72-year-old self-employed farmer was struck by a bale grab. He was driving his tractor in a field collecting straw with a raised bale grab attached to the front of the tractor when it dislodged from the tractor attachment hook and struck him on the head. He died from head injuries.

54 A 71-year-old self-employed farmer was crushed beneath a shutter door. He was opening a barn roller shutter door when the entire door fell on top of and crushed him. He died from head injuries.

North East

55 An 83-year-old self-employed farmer was knocked to the ground by cattle being moved in an auction mart sale. He was standing in the alleyway following his own stock to a holding pen. As the cattle were being moved to their pens from the unloading bay one of them became agitated and bolted down an open alleyway, colliding with the farmer. He fell to the ground and died some days later from internal injuries.

56 A 37-year-old self-employed contractor fell through a fragile roof. He was repairing a farm roof when he fell through the plastic skylight to the floor below. He died from head injuries.

North West Division

57 A 32-year-old employee was trapped beneath a concrete block. He was building an agricultural shed on the farm and was lifting concrete panels into place using a telehandler and lifting equipment. As the panel was being guided into place to form a wall, the lifting chain and metal rods failed causing the panel to fall onto the employee, trapping him. He died from crush injuries.

58 An 81-year-old self-employed farmer was found trapped between a tractor fore end loader and a gate. He was opening a gate when the tractor slipped down a slope, crushing him against the gate.

59 A 53-year-old self-employed welder was knocked over by a bull. He was helping to move cattle into the pens when one of the bulls turned and collided with him. He fell to the ground and died from head injuries.

Scotland

60 A 58-year-old self-employed farmer died when she fell off a quad bike. She had taken the bike to feed sheep but did not return when expected. There were no witnesses but it is believed that as she had crossed a stream (deep and in full flow) she fell from the bike. The farmer found the bike in the stream at the bottom of a field and his wife further upstream several days later.

61 A nine-year-old child was found trapped beneath a farm quad bike. He was riding the bike in a field when it overturned. There were no witnesses but it is believed the bike toppled over as he turned in a field near the farm buildings. He was found trapped under the bike by his father and died from multiple injuries.

62 A 70-year-old employee was crushed when his tractor overturned. He was re-seeding the field with a tractor and seed drill when the vehicle overturned on a downhill slope. He was later found near the overturned tractor and may have been ejected from the cab as it rolled over before coming to rest against a wire fence. He died from crush injuries.

63 A 60-year-old farm manager was crushed beneath an overturned quad bike. He had set out to spray bracken on a quad bike fitted with a rear-mounted spray boom but did not return home that evening. He was asphyxiated and found by his partner with the bike on top of him.

64 A 72-year-old member of the public fell and drowned in a river. He was fishing and appears to have lost his balance and fallen into the water. He was swept away and found floating in shallow water downstream.

65 A 63-year-old self-employed farmer was found trapped between a tractor and a shed door. He was working alone collecting bales of hay and had dismounted the tractor to close the gate when the vehicle rolled back down a slope and trapped him against the shed doors. He died from severe crush injuries.

66 A 46-year-old self-employed farmer was trapped beneath a bailer tailgate. He was standing under the raised tailgate to carry out maintenance work that included spraying oil on the bailer chamber when the tailgate closed, trapping him. He died from crush injuries.

67 A 49-year-old employee was struck by a falling tree. He was felling the tree in a forest using a tractor-powered winch. As the tree came down it caught on other trees that had been uprooted and was deflected towards the deceased. He was crushed beneath the tree and died from multiple injuries.

68 An 83-year-old self-employed retired farmer became entangled on an unguarded power take-off shaft. He was helping his son on the family farm when he came into contact with the unguarded PTO attached to a tractor and died from injuries sustained.

69 A 62-year-old self-employed farmer was run over by a reversing tractor. He was contracted by a local farmer to plough his field and had left his tractor in the field. He then walked over to and stood behind the farmer's tractor. The farmer, unaware that he was behind him, raised his plough and began to reverse his vehicle. As the farmer reversed to continue ploughing, he ran over the deceased.

70 A 39-year-old self-employed temporary worker was found trapped beneath a fork lift truck. He was driving the fork lift truck to move potato boxes in and around a potato shed. As he manoeuvred the vehicle in reverse, with the mast raised, it struck a metal roof beam, causing the truck to topple over. He had tried to jump out of the cab but was trapped by the truck as it overturned, trapping his upper body and neck.

Employment status, month and age

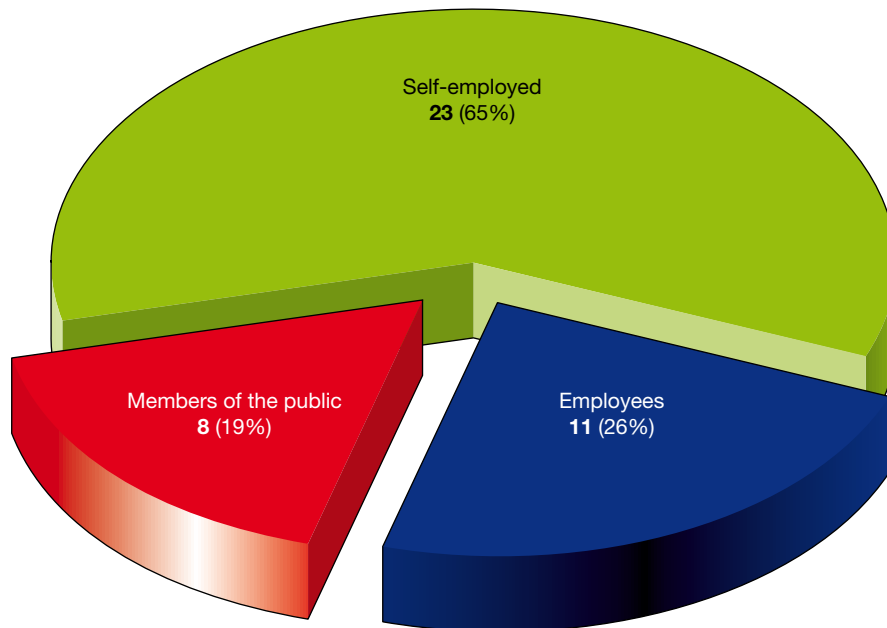


Figure 4 Fatal injuries by employment status 2010/11

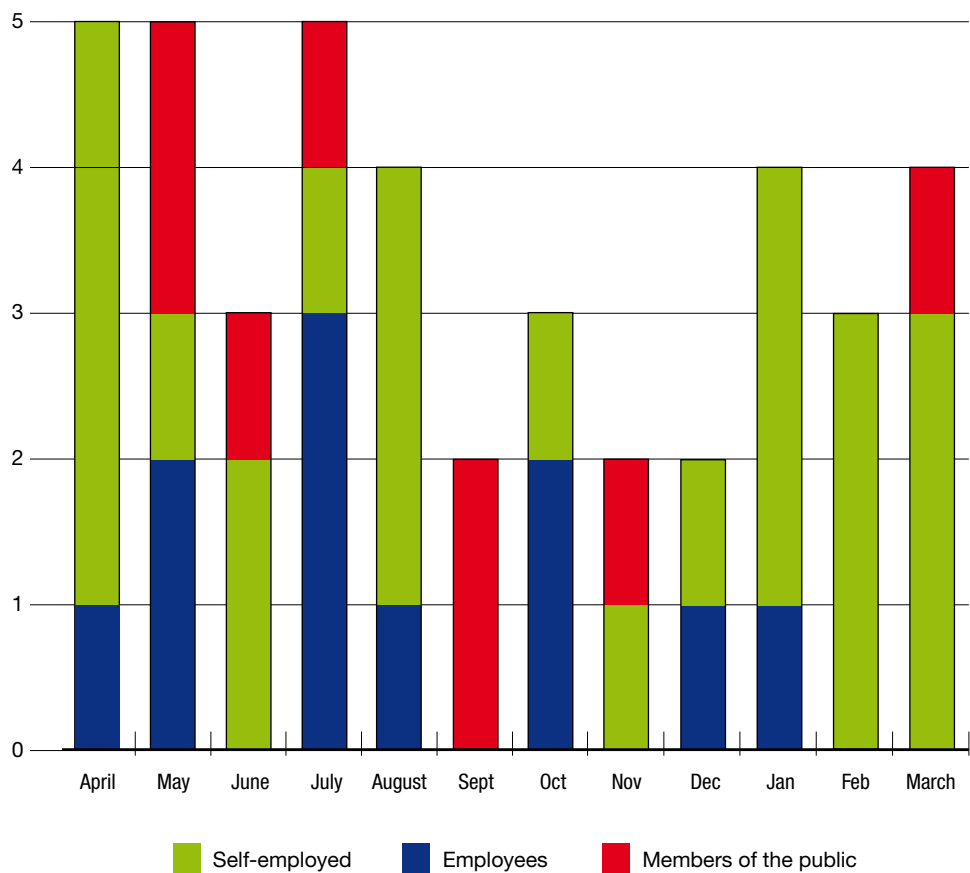


Figure 5 Fatal injuries by month of the year 1 April 2010 to 31 March 2011

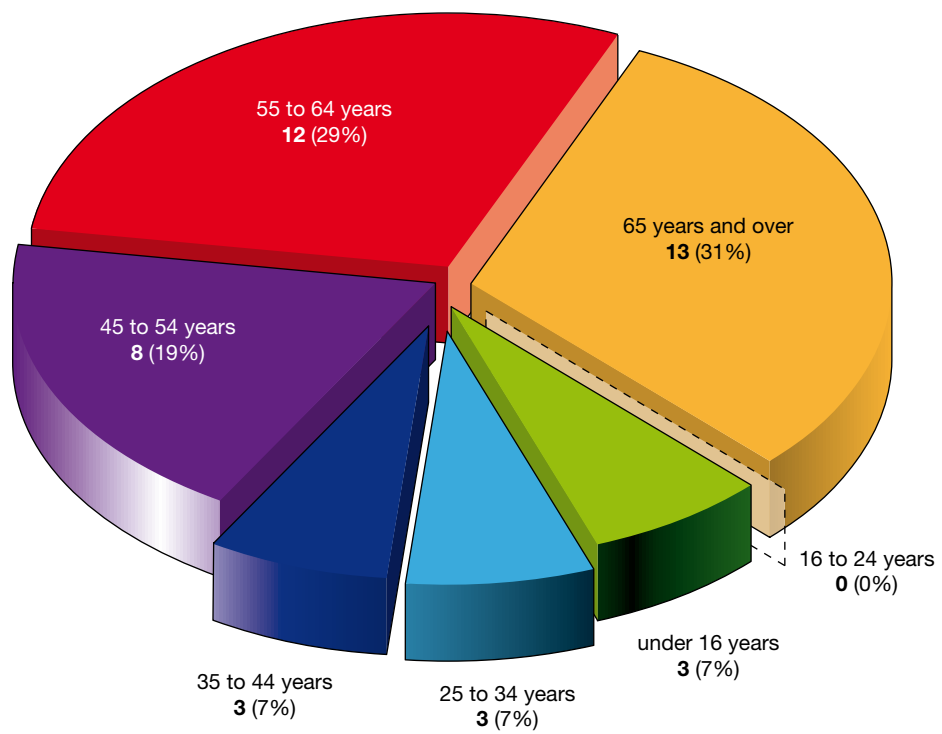


Figure 6 Fatal injuries by age 2010/11

Table 5 Fatal injuries by age 2010/11

Under 16	3
16 to 24	0
25 to 34	3
35 to 44	3
45 to 54	8
55 to 64	12
65 and over	13

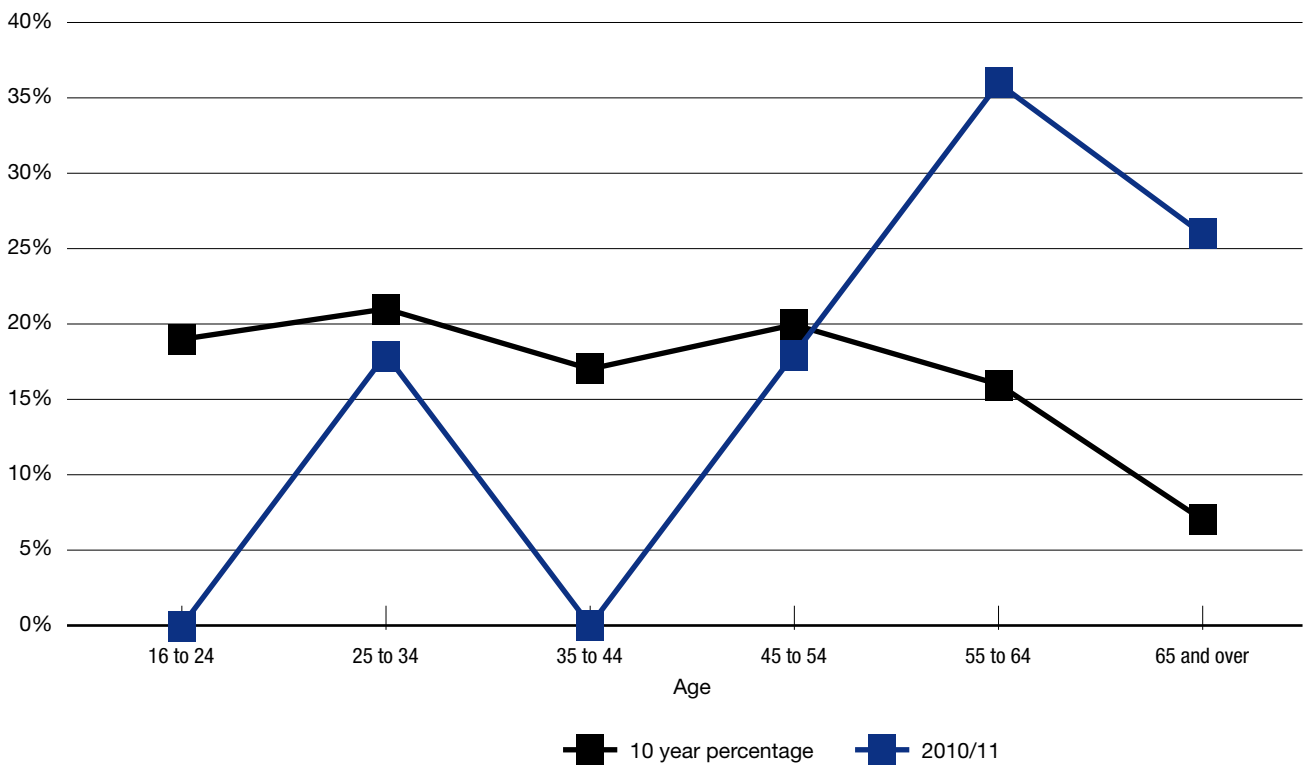


Figure 7a Age of deceased. Percentage of the total for employees 2010/11 against ten-year period 2000/01 to 2009/10

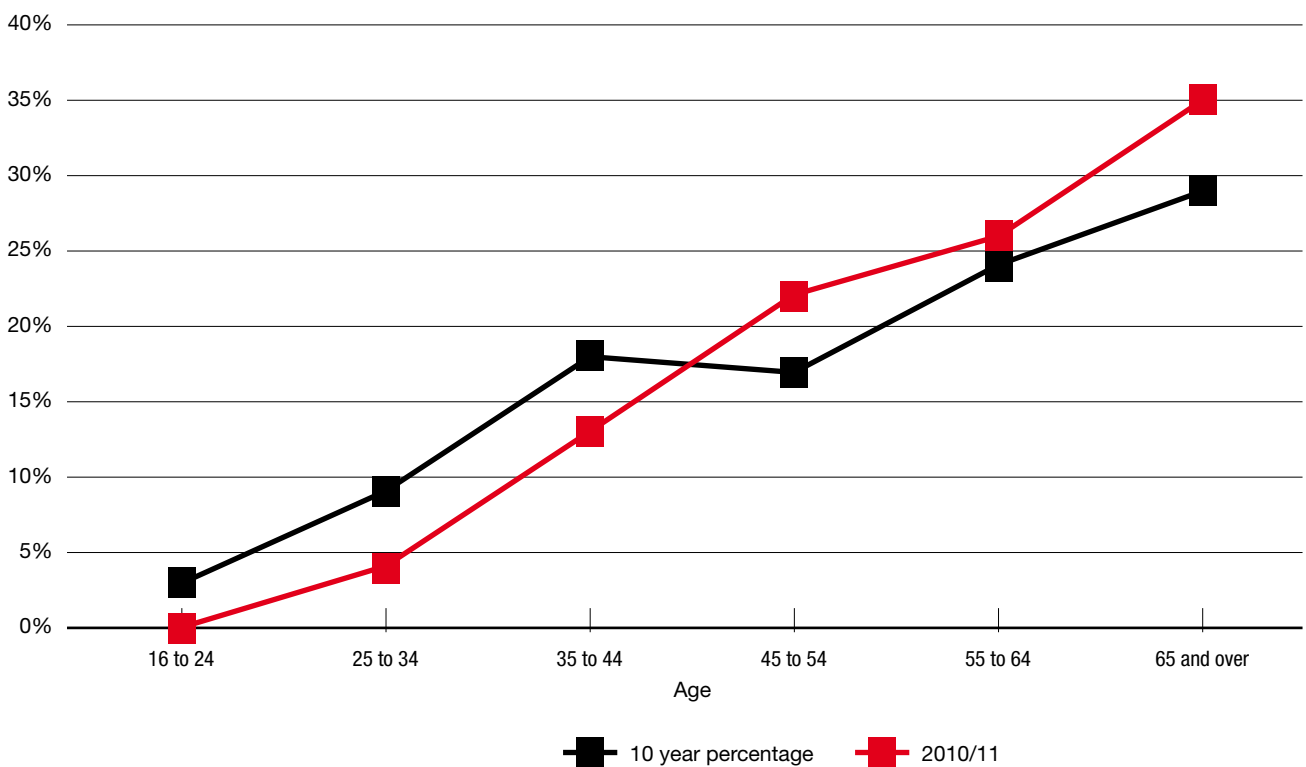


Figure 7b Age of deceased. Percentage of the total for self-employed 2010/11 against ten-year period 2000/01 to 2009/10

Part Two: Fatal injuries in the agricultural sector 2000/01–2009/10

71 Part Two of this report provides a detailed breakdown and summary of the causes of fatalities over the ten-year period 2000/01 to 2009/10. It also provides a comparison between 2010/11 and the previous ten years. However, changes to the industrial classification introduced in 1995/96 mean that data for this and subsequent years are not directly comparable with that for 1994/95 and earlier.

72 Similarly, some definitions in RIDDOR changed from April 1996 such that the data for subsequent years may not be directly comparable.

73 Four hundred and thirty-five (435) fatalities in the agricultural industry (including the forestry and landscaping sector) were reported to HSE between 2000/01 and 2009/10. Of these, 140 (32%) were to employees, 247 (57%) were to self-employed workers and 48 (11%) were to members of the public who were injured as a result of someone else's work activity.

74 Over the same period 19 children (under 16 years of age) were killed. One was classified as an employee (included in Tables 6–13); the other 18 being classified as members of the public (included in Tables 14–15). This means that:

- on average over the past ten years approximately one person a week was killed as a direct result of an agricultural work activity; and
- thirty-seven percent (37%) of the reported fatalities to members of the public involved children.

75 See Table 6 for further information.

Employees and self-employed people

76 There were 11 fatal injuries to employees in 2010/11, two fewer than in the previous year. In all, 140 employees were killed over the past ten years, an average of 14 deaths per year.

77 There were 23 fatal injuries to self-employed workers in 2010/11, two fewer than in the previous year. In all, 247 self-employed people were killed over the past ten years, an average of 25 deaths per year.

78 The combined total of 34 workers (ie employees and self-employed people) killed in agriculture during 2010/11 was four fewer than in the previous year. Over the ten-year period, 387 workers were killed, of whom 140 (36%) were employees and 247 (64%) were self-employed.

79 See Table 7 for further information.

Occupation

80 Farmers and farm managers accounted for 62% of the self-employed fatalities and farm workers and farm labourers for 49% of the employee fatalities.

81 The highest number of fatalities in a specific occupational group involved arborists/forestry workers, who accounted for 29 deaths, 20 of whom were self-employed.

82 Other agriculture-related activities, including aquaculture (ie fishing farming), accounted for 31 deaths; 25 involving the self-employed.

83 Drivers of tractors and other vehicles accounted for ten fatal injuries, 80% of which involved employees.

84 See Table 7 for further information on occupation.

Kind of injury

85 The three main causes of fatal injuries to workers in the agricultural sector over the past ten years were:

- transport – being struck by a moving vehicle (27% of all fatalities);
- struck by moving or falling objects (17%);
- falls from a height (14% of all fatalities).

86 Other causes included:

- asphyxiation or drowning (10%);
- contact with machinery or the material being machined (10%);
- injury by an animal (8%);
- trapped by something collapsing or overturning (6%);
- contact with electricity or an electrical discharge (3%).

Cause of injury

87 The largest cause of fatal injuries in agriculture continues to be workplace transport. Transport was involved in 109 deaths over the ten-year period. In particular:

- Being struck by a tractor was the most common cause of fatal injuries to workers (including the self-employed), resulting in 49 deaths. Of these, 30 were self-employed people and 19 employees.
- Being struck by moving vehicles and vehicles overturning accounted for 102 deaths, 27% of the total fatalities.
- Vehicles overturning or falling from support accounted for a further seven deaths.

88 Being struck by a moving, falling or flying object accounted for 64 deaths (17%), 22 of which were caused by falling branches/trees and nine by objects falling from shelves or stacks.

89 Falls from heights accounted for 56 deaths (14%). The two most common causes were falling through fragile roofing materials (23) and falling from moveable ladders (seven).

90 Asphyxiation or drowning caused a further 40 deaths, 32 in water. This figure includes 21 cockle pickers who died in Morecambe Bay in 2003/04.

Cause of injury (employees)

91 Among employees, the most common cause of death was being struck by a tractor, accounting for 19 deaths. Other common categories of vehicle deaths were ATVs (11) and telescopic material handlers/loaders (eight).

92 Being struck by a tree or a tree branch resulted in nine deaths. A further eight were as a result of asphyxiation or drowning in water. Machinery was involved in 11 deaths, farm animals in seven, and a further seven were the result of contact with electricity.

Cause of injury (self-employed)

93 Among the self-employed, the most common cause of death was transport. Being struck by a moving or overturned tractor accounted for 30 deaths and a further three deaths occurred when a vehicle overturned or fell from support. ATVs were involved in five deaths and telehandlers in a further five.

94 Asphyxiation or drowning in water was the second most common cause of death (24), although this includes 21 drowned in a single incident in Morecambe Bay in 2003/04.

95 Machinery was involved in 28 deaths. Other significant causes included bulls or other cattle (25), falls through fragile roofs/roofing materials (19) and being struck by a tree or tree branch (13).

96 See Table 8 for further information as to causation.

Nature and site of injury

97 See Table 9 for a breakdown of the nature and site of the injury resulting in death.

Work activity

98 Fatalities within the agricultural sector resulted from a wide range of work activities. One hundred and twelve (112) deaths – representing 29% of the total – occurred during the cultivation, harvesting and processing etc of crops.

99 Eighty-one (81) deaths (21%) involved the handling and housing of livestock and work related to animal husbandry.

100 A further 46 deaths (12%) occurred during the maintenance of machinery, buildings and land/estates, including general maintenance.

101 Forty (40) deaths (10%) occurred during tree work in forestry and arboriculture, including the maintenance of trees and woodland on farms and estates.

102 See Table 10 for further information on the work being undertaken at the time of the accident.

Age

103 Deaths to workers (employees and the self-employed) in agriculture aged 65 years and over remained high, while deaths to those aged 24 years or below remained low in comparison with other industrial sectors. Of the 387 workers killed, 82 (21%) were over 65 years of age compared with 34 (9%) who were under 25.

104 The majority of self-employed workers who died were over 65 years of age – representing 29% of all reported fatalities to the self-employed. Over half the self-employed deaths, 130 in total, were to those aged 55 and over compared with seven under 24.

105 For employees, those aged 25–34, 35–44 and 45–54 had the largest proportion of fatal injuries. The lowest figures were for those under 19 and 65 years and over.

106 See Tables 11a and 11b for further analyses of fatal injuries by age.

Month, day and time

107 The highest number of deaths to the employed and self-employed during the ten-year period were in August and September (47 each), followed by February (39) and October (36).

108 The comparatively larger numbers during late summer/early autumn reflect the level of activity in the arable sector associated with harvesting and autumn cultivation. The lowest number of deaths occurred in April (22), January (25) and March, November and December (26 each).

109 In contrast to other industries, which show a gradual decrease in injuries to employees through the working week, there is no clearly discernible pattern in agriculture.

110 Fatalities to employees are fairly evenly distributed through the working week, though the numbers reported on Wednesdays and Thursdays are lower. Similarly, fewer deaths occurred over the weekend.

111 Fifty (50) self-employed people were killed at weekends compared to 20 employees. Seventy-one percent (71%) of deaths at the weekend involved the self-employed.

112 The number of deaths increases during the morning, reduces over lunchtime and steadily rises again during the afternoon.

113 See Tables 12 and 13 for a more detailed breakdown by month, day and time of day.

Members of the public

114 Forty-eight (48) members of the public (including 18 children aged under 16) died as a result of an agricultural work activity during the ten-year period.

115 Being struck by a moving vehicle was the main cause of death to both children and adults, accounting for 25% of the total (58% of whom were children).

116 Seven children died as a result of being struck by a moving vehicle (39% of all child fatalities). Four deaths were as a result of asphyxiation or drowning (22%), while falls from a height accounted for a further two deaths.

117 Of the 18 child deaths, those aged between one and five were most at risk. Eight children (44% of the total) were within this age group. Six were aged 6–10, the remainder were between 11 and 15 years of age.

118 The main cause of fatal injuries to adult members of the public was also transport (12 deaths), followed by injury by an animal (11 deaths). Falls from a height resulted in eight deaths and being struck by a flying or falling object led to a further five.

119 Fifteen (15) fatalities (31%) involved members of the public over 65 years of age.

120 Sixteen (16) deaths involving members of public (33%) occurred over the weekend. Eight deaths occurred on Wednesdays, and seven (each) on Tuesdays and Fridays. Fewer deaths occurred on Mondays and Thursdays. Thirty-eight percent (38%) of the deaths to children occurred over the weekend.

121 More adults died in July and August than in any other month. Of the 30 deaths to adult members of the public, seven (23%) occurred in July, followed by August and September.

122 See Tables 14 and 15 for further information on fatal injuries to members of the public.

Table 6 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Kind of incident	Employees	Self-employed	Total numbers	Percentage
Transport – struck by moving vehicle	43	59	102	27%
Struck by moving, including flying or falling object	19	45	64	17%
Fall from a height	19	37	56	14%
Asphyxiation or drowning	14	26	40	10%
Contact with machinery or material being machined	11	28	39	10%
Injury by an animal	7	25	32	8%
Trapped by something collapsing or overturning	11	12	23	6%
Contact with electricity or an electrical discharge	7	4	11	3%
Other categories including: struck against something fixed or stationary; slip, trip or fall on same level; exposure or contact with a harmful substance and fire	9	11	20	5%
Total	140	247	387	100%

Table 7 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Occupation	Employees	Self-employed	Total
Farmer/farm manager/managerial	21	152	173
Farm worker/labourer	69	27	96
Forestry worker/arborist	9	20	29
Driver, including tractor drivers	8	2	10
Groundsman	5	5	10
Fishing and other agriculture-related	6	25	31
Other	22	16	38
Total	140	247	387

Table 8 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

More detailed breakdown by type of incident	Employees	Self-employed	Total
<i>Struck by moving vehicle</i>	43	59	102
Tractor	19	30	49
Trailer, plant or equipment associated with vehicle	2	3	5
All-terrain vehicles (ATVs)	11	5	16
Fork lift truck/telescopic handler/loader	8	5	13
From transport of any kind	3	16	19
<i>Struck by moving, falling or flying object</i>	19	45	64
Material being lifted or lifting equipment	4	2	6
From shelf, table or stacking	4	5	9
From weapons	1	1	2
From part of a building or structure	0	5	5
Tree/tree branch	9	13	22
Other	1	19	20
<i>Fall from a height</i>	19	37	56
Moveable ladder	1	6	7
Fragile roof	4	19	23
From vehicle	1	1	2
From stacked material	1	0	1
From any man-lifting equipment	2	3	5
From gangways, roof edge or other means of access, including structures and buildings	2	2	4
Other	8	6	14

Table 8 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10
Continued

More detailed breakdown by type of incident	Employees	Self-employed	Total
<i>Asphyxiation/drowning</i>	14	26	40
Water	8	24	32
Grain	0	1	1
Other, including oxygen deficiency	6	1	7
<i>Contact with machinery</i>	11	28	39
Combine harvesters	2	5	7
Other (including bale handlers, bale choppers, hay turners, balers, chainsaws etc)	6	7	13
Other attached powered machinery	3	13	16
Chainsaws	0	3	3
<i>Injury from an animal</i>	7	25	32
Bulls	2	12	14
Other cattle	3	13	16
Horses	2	0	2
<i>Trapped by something collapsing or overturning</i>	11	12	23
Vehicles overturning/falling from supports	4	3	7
Stacked material	2	1	3
Plant, including lifting machinery and equipment	1	4	5
Building or structures	2	0	2
Other	2	4	6
<i>Contact with electricity</i>	7	4	11
Overhead power lines	5	2	7
Plant	0	1	1
Other	2	1	3
<i>Struck against something fixed or stationary</i>	4	1	5
<i>Exposure to or contact with harmful or hot substance</i>	2	5	7
Entry into confined space	0	2	2
Other	2	3	5
<i>Slip, trip or fall on same level</i>	1	2	3
<i>Fire</i>	1	1	2
<i>Other kinds of incident</i>	1	2	3
Total	140	247	387

Table 9 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Nature of injury	Employees	Self-employed	Total
Fractures	12	25	37
Concussion and internal injuries	12	32	44
Crushings and contusions	10	26	36
Asphyxiation, poisoning and gassing	13	12	25
Injury caused by electricity	7	4	11
Multiple injury types	21	40	61
Other known	23	60	83
Unknown	42	48	90
Total	140	247	387

Site of injury	Employees	Self-employed	Total
Head	29	51	80
Neck	3	5	8
Back	0	2	2
Trunk	11	25	36
Torso (multiple site)	2	12	14
Upper limb	1	1	2
Lower limb	3	3	6
Several of the above	20	48	68
General locations (inc drowning, asphyxiation, electrocution etc)	41	56	97
Other/unspecified locations	30	44	74
Total	140	247	387

Table 10 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Work activity	Employees	Self-employed	Total
Agriculture operations – all operations involving agriculture, eg cultivation, harvesting, crop spraying, all crop processing	36	76	112
Livestock operations: animal housing/handling, feeding and all other animal-related operations	29	52	81
Fish farming, including shellfish harvesting	7	23	30
Maintenance (machinery)	12	10	22
Maintenance (buildings)	4	13	17
Maintenance (land)	2	3	5
Maintenance (general)	0	2	2
Landscape gardening	4	4	8
Forestry operations	5	3	8
Tree felling and extraction	1	4	5
Maintenance of trees and woodland	4	9	13
Arboriculture: tree surgery, care of trees etc	2	12	14
Walking/running on or outside premises, including entering and leaving buildings	9	7	16
Travelling/delivering in vehicle, including driving on public highway and off-site	6	3	9
Loading/unloading	2	6	8
General handling	5	0	5
Other	12	20	32
Total	140	247	387

Table 11a Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Age	Employees	Self-employed	Total
Under 16	1	0	1
16–19	8	3	11
20–24	18	4	22
25–34	29	21	50
35–44	23	43	66
45–54	27	41	68
55–64	22	58	80
65 and over	10	72	82
Age not known	2	5	7
Total	140	247	387

Table 11b Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

	Total workers (employed and self-employed) by year										Total
	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	
Under 16	0	1	0	0	0	0	0	0	0	0	1
16–19	0	2	1	2	1	0	2	2	0	1	11
20–24	2	2	3	1	4	2	1	2	3	2	22
25–34	4	7	7	9	6	0	4	7	1	5	50
35–44	12	6	3	14	2	8	7	5	6	3	66
45–54	10	5	5	5	8	8	6	7	6	8	68
55–64	8	6	8	8	11	9	6	6	5	13	80
65 and over	10	10	7	3	10	6	8	17	5	6	82
Age not known	0	0	2	2	0	1	2	0	0	0	7
Total	46	39	36	44	42	34	36	46	26	38	387

Table 12 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Day of the week	Employees	Self-employed	Total
Monday	23	34	57
Tuesday	32	32	64
Wednesday	20	40	60
Thursday	20	56	76
Friday	25	35	60
Saturday	10	32	42
Sunday	10	18	28
Total	140	247	387

Month	Employees	Self-employed	Total
April	8	14	22
May	11	18	29
June	16	15	31
July	14	19	33
August	19	28	47
September	15	32	47
October	15	21	36
November	9	17	26
December	5	21	26
January	9	16	25
February	8	31	39
March	11	15	26
Total	140	247	387

Table 13 Fatal injuries to employees and self-employed in agriculture 2000/01–2009/10

Time of day	Employees	Self-employed	Total
Before 08:00	4	3	7
08:00–08:59	3	5	8
09:00–09:59	13	13	26
10:00–10:59	12	25	37
11:00–11:59	20	24	44
12:00–12:59	13	12	25
13:00–13:59	15	8	23
14:00–14:59	8	25	33
15:00–15:59	13	15	28
16:00–16:59	5	23	28
17:00–17:59	8	17	25
After 18:00	17	31	48
Time not known	9	46	55
<i>Total where time is known</i>	131	201	332
Total	140	247	387

Table 14 Summary of fatal injuries to members of the public in agriculture 2000/01–2009/10

Year of fatal injury	Members of the public	... of which were children
2000/01	7	4
2001/02	2	1
2002/03	3	1
2003/04	7	2
2004/05	3	0
2005/06	8	3
2006/07	7	4
2007/08	2	0
2008/09	4	0
2009/10	5	3
Total	48	18

Age of injured person	Members of the public
1–5	8
6–10	6
11–15	4
16–19	3
20–64	12
Over 65	15
Total	48

Table 15 Summary of fatal injuries to members of the public in agriculture 2000/01–2009/10

Kind of incident	Members of the public	... of which were children
Transport: struck by moving vehicle	12	7
Asphyxiation or drowning	5	4
Injury by an animal	11	0
Fall from a height	8	2
Struck by moving, flying or falling object	5	1
Contact with electricity	1	0
Contact with machinery	2	1
Trapped by something collapsing/overturning	2	1
Strike against something fixed	1	1
Exposure to or contact with harmful or hot substance	1	1
Total	48	18

Work activity	Members of the public	... of which were children
Agriculture operations, including cultivation, harvesting, crop processing etc	12	5
Livestock operations: animal housing/handling, feeding and all other animal-related operations	10	3
Maintenance (machinery)	1	0
Maintenance (land)	0	0
Maintenance of trees, woodland and parks	1	0
Walking/running on or outside premises, including entering and leaving buildings	7	6
Travelling/delivering in vehicle, including driving on public highway and off-site	4	0
Loading/unloading, including handling	1	0
Other activity, including leisure	12	4
Total	48	18

Table 15 Summary of fatal injuries to members of the public in agriculture 2000/01–2009/10
Continued

Nature of injury	Members of the public	... of which were children
Fractures	7	1
Concussion and internal injuries	3	1
Asphyxiation, poisoning and gassing	6	5
Injury caused by electricity	1	0
Contusions and crushings	2	0
Multiple injury types	8	5
Other known	9	4
Unknown	12	2
Total	48	18

Site of injury	Members of the public	... of which were children
Head injuries	11	7
Neck	2	0
Trunk	3	0
Upper limb	1	0
Lower limb	1	0
Several locations	9	3
General locations	13	7
Other/unspecified locations	8	1
Total	48	18

Day of the week	Members of the public	... of which were children
Monday	5	1
Tuesday	7	2
Wednesday	8	3
Thursday	5	1
Friday	7	4
Saturday	8	2
Sunday	8	5
Total	48	18

Table 15 Summary of fatal injuries to members of the public in agriculture 2000/01–2009/10
Continued

Month	Members of the public	... of which were children
April	3	0
May	1	1
June	5	1
July	11	4
August	7	1
September	9	4
October	4	3
November	0	0
December	1	1
January	4	2
February	1	0
March	1	1
Total	48	18

Further information

Current information and advice on agriculture (including the latest eBulletins and *Farmwise: Your essential guide to health and safety in agriculture*) is available online at www.hse.gov.uk/agriculture and on tree work at www.hse.gov.uk/treework/index.htm.

Enquiries concerning this report should be addressed to:

Health and Safety Executive
Agriculture and Food Sector
City Gate West
Toll House Hill
Nottingham NG1 5AT

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This document is available at: www.hse.gov.uk/agriculture/pdf/fatal1011.pdf.

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